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ISD News and Views

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Commentary

Just a note: This month's Agency Spotlight will
present Part Two in the two-part series from
the Montana Historical Society, dealing with the
archiving of electronic records. If you missed
Part One in last month's issue, please call to
receive a copy of this most informative series.

Agency Spotlight

Montana State Archives

Part Two of a Two-Part Series

The State Archives has not yet dealt much with
records being created and kept on electronic
media. Part of the problem is the cost involved
in keeping electronic records which the creating
agency no longer needs, but which the public
might. Storage costs are minimal, but the costs
of making the records accessible can be phe-
nomenal. Hardware and software changes occur
so rapidly that what was commonplace five
years ago is now considered an antique. And
the rate of change is only going to accelerate.
The Archives would either have to keep work-
ing examples of all hardware and software on
which records had been created and kept, or
else someone would have to pay to migrate the
information to the new technology every time
there was a significant change. Either way,
costs would mount quickly. Also, the rapidly
changing technology means someone would
need to stay conversant with old software in
order to use the information contained in the
electronic records. Having a stable storage
medium does not do much good if the records
are not readable.

A further difficulty has been the rapid proliferation of records, aided and abetted by technology. Photocopy machines and PC printers have multiplied the number of copies of any given document. Information once considered not worth keeping because of the time and expense of filing it, is now routinely kept because of the ease. The traditional definition of a public record included anything made or received by an agency in the course of public/official/government business. In an electronic environment, anything "received" by an agency would include highly redundant information imported for reference only. All the information you used to put in your wastebasket when it was paper is now mixed together with the actual "records" in an electronic environment.

Electronic media have also reopened the question of what constitutes a public record. When is an electronic record created? Is any evidence of a transaction (which would be any communication in an electronic environment) a public record? In the past, record series with permanent value were easier to recognize and save in a paper format; however, in an electronic format, record series sometimes become more difficult to identify since the same information may be used in more than one report format. Relational databases are particularly troublesome. Is a virtual document (when someone pulls together information in a particular way to look at it on the screen, but does not save it or print it) a record? Should only the final printed report be considered a record? Or should the valuable information and the ability to manipulate it also be saved? Someone arguing only for evidential value would be interested in what information a decision-maker had available, as well as the final report, while someone interested in research would want the information and the ability to use it the way he needed it.

Another problem for the Archives is the ability in an electronic environment to change an electronic document and thus have no "historical" record of what the previous document contained. There are ways around this, but they often need to be built into the system at the design stage, when no one is generally thinking about the future needs of the public, but rather the immediate needs of the creating agency. A somewhat related concern is the problem of maintaining the standard archival concepts of provenance and original order when the information has no physical existence. Functions, and therefore data, can be spread across several agencies--thus electronic media allow records to also be spread across agency lines.

What is the answer to these problems? At this point, there is no answer. Only the National Archives in the United States, the National Archives in Canada, and the states of New York and Kentucky currently have successful archival electronic records programs. There are more theories floating around than there is sound, practical advice. One option is to establish statewide data dictionaries or metadata files which could be accessible to the public and to other agencies through the archives. Much of the information that is useful for archivists is also useful to program managers and to the public. Archivists are also interested in establishing guidelines for the definition, authenticity, and protection of electronic records and guidelines for the procurement/design of systems to conform to recordkeeping requirements. Many of the concerns raised in this article cannot be solved by the State Archives alone. They will need to be discussed, and solved, through a cooperative effort.

--Kathie Otto, Montana Historical Society

Agencies Implement Zip!Mail

Implementation of Zip!Mail electronic mail is well underway by a number of State agencies. In the month of November, the Governor's office, Lieutenant Governor's office, and the Budget office began using the system. Fish, Wildlife and Parks began a phased implementation in December, and the Department of Administration will start a conversion to Zip!Mail sometime in February.

Existing PS/PC e-mail users are converted to Zip!Mail at no charge. A one-time new user fee of $75.00 is charged for users new to e-mail. There will not be any future costs for software upgrades, except possibly for major

new releases (such as a Windows version). Also, free training is provided during the initial conversion period.

Address changes are broadcast to PS/PC users via electronic mail whenever users are added or converted to Zip!Mail. People still using PS/PC must remember to make these address changes in their nickname file. Zip!Mail users don't need to worry about this as ISD performs all address changes for Zip!Mail users. A new printed listing of e-mail addresses is also available from the ISD Help Desk at 444-2973.

Agencies which are interested in using the new e-mail system should contact the ISD End User Computing Section at 444-2921.

New Novell User Group

Thursday, March 26 will be the first meeting of a new Novell User Group. Anyone interested in participating is invited to join us at 10:00 a.m. in rooms 13A & 13B of the Mitchell Building.

Chairperson for the meeting is Teri Lundberg, with Dave Marshall, Tripp Hammer, and Terry Kramer as guest speakers. Subjects to be discussed include:

Netware as a State standard
Novell Purchasing and Support
Novell Training Availability
Netware Routers in LAN design
Naming Standards for Novell Servers
General Discussion of Known Problems

Mainframe

CL/Supersession Storage Usage

CL/Supersession is a multi-session terminal manager that gives a single 3270-compatible terminal concurrent access to various applications and systems through the use of virtual terminal logical units.

This article concerns the growth of CL/Supersession since the product was made available for use by the user community. To date, Supersession has more than 1025 active concurrent users with an average two sessions per user. Supersession is using approximately 45 meg of virtual storage and 25 meg of real storage.

This may sound like a tremendous amount of storage, but consider what Supersession is doing in the background. For all Supersession users using multiple session or single session, Supersession has to keep a copy of the screens in memory. It also keeps track of all the sessions you have access to, the sessions you want to display on your screen, the triggers you have specifically defined, certain options such as starting a foreground, background session at sign-on and any other modifications you have made to your sessions.

Supersession is set up to pre-allocate "storage pools" in order to lessen the chance of storage fragmentation and performance degradation.

These "storage pools" are monitored on a daily basis by Technical Services. The amount of storage available to Supersession is increased on an "as need" basis.

Attention Supersession Users

Information on Exiting Supersession

There are many ways you can exit Supersession:

.   PF3 - Exit   - from the Main Menu
.   EXIT option - from the Action Bar
.   \q (trigger) - from any application input area

When you use any one of the above methods you will notice that there are three options available from the EXIT Pop-up window:

1. Exit and Terminate Sessions
2. Exit and Do Not Terminate Sessions
3. Resume

Option #2 is the selection that will be discussed.

Option #2 is very useful if you have to exit Supersession for a short time and you want to pick up where you left off when you sign back on. However, this option should not be used to save your sessions from day to day or from weekend to beginning of the next week because storage gets tied up within Supersession, VTAM, and various applications that could be better used elsewhere.

If you are leaving your terminal for the night or weekend, PLEASE EXIT SUPERSESSION BY SELECTING OPTION #1 - "EXIT AND TER-MINATE SESSIONS".

If you have any questions, call Jane Black Eagle at 444-2742.

Term Contract Status

Micro Term Contracts

The price list for ComputerLand has been updated and distributed. If you haven't yet received your copy of this update, or if you have any pricing questions, please call Debbie Owen at 444-1357 or Gary Warren at 444-0515.

Please note in Addendum 1 to the Dell contract released January 1992, that system models 325P and 333P (Appendix B, page 8) are listed as SX-based units. This is an error and should state that the **325P and 333P are DX-based units**. Also, additional Dell price decreases were submitted mid-February and are under review.

Under Digital term contract 317-V, please note the Addendum 1 Wyle Laboratories payment address is revised as follows:

> WYLE ENG - Salt Lake
> Dept #1937
> PO Box 61000
> San Francisco, CA 94161

IBM PERSONAL PRINTERS

Please note that IBM printer models 2380-001, 2381-001, 2390-001, and 2391-001 all come standard with **two (2) years free on-site warranty** from IBM.

HEWLETT PACKARD SERVICE NEWS

Agencies owning/purchasing Hewlett Packard (HP) IIID and IIIsi printers are entitled to **free on-site service during the base warranty year** (for free HP service purposes, warranty begins on equipment delivery date). An HP service representative will be dispatched to any Montana location. Response time will be 2 to 3 days, with repair generally occurring on the same day as the service representative responds on-site.

To notify HP of a hardware problem call 800-633-3600. The person logging your call will need the printer model number, serial number, and purchase date (for the IIID and IIIsi this is the delivery date). Please call Debbie Owen at 444-1357 or Gary Warren at 444-0515 with any questions or problems.

Microcomputer

Techtalk

Many times you may find it useful to print headers and footers in Lotus 123 spreadsheets. It is especially handy to include the filename, date, and page number in a footer or a header. Headers and footers will not appear in your spreadsheet on the screen; they will only appear on printouts. Headers will be printed at the top of each page of your spreadsheet, while footers will be printed at the bottom of each page. To add a header or a footer, you need to select /Print Printer Options Header (or Footer). Lotus automatically reserves 3 lines each for the header and footer, whether you print them or not. That is why, even though you specify 0 for top and bottom margins, your spreadsheet will still leave a one-inch top and bottom margin. You may remove these six reserved header and footer lines by selecting /Print Printer Options Other Unformatted. (/Print Printer Options Other BlankHeader Suppress for Lotus 3.1) There will still be 2 blank lines which Lotus reserves both at the top of the page and at the bottom.

The following special characters can be used in headers and footers:

\# inserts current page number
@ inserts current system date
| aligns text

Text to the left of the first pipe (|), or if there is no pipe, will be left aligned; text between the first and second pipe will be centered; and text to the right of the second pipe will be right aligned. For example, the footer

MYFILE.WK1|Page \#|@

will print the following:

MYFILE.WK1   (left aligned)
Page 1   (centered)
01-Mar-92   (right aligned)

You may wish to just use a pound sign (\#)

instead of Page \#, depending on if you want "1" or "Page 1" to appear in your footer. It is also not necessary to include text or special characters before or between pipes. You can include two pipes and then a special character or text to cause the information to be right aligned. The footer on the last page of a printout will not print until you issue a /Print Printer Page command.

These special characters work well for Lotus 123 release 2.2, 2.3, and 3.1. When you are using WYSIWYG or ALLWAYS, you may still include headers or footers and these special characters. You just need to go into the WYSIWYG or ALLWAYS layout menus. If you have any questions concerning headers or footers in Lotus 123, please call Irv Vavruska in End User Computing at 444-2858.

End Notes

Submit Articles

If you wish to submit an article to News and Views for publication, the following schedule provides dates that articles must be received by in order to be included in the issues listed below:

May Issue   03/23/92
June Issue   04/20/92
July Issue   05/19/92

ISD HELP DESK   444-2973

Have a problem? Need ISD assistance or support for any of your information processing needs--either voice or data? The central point to contact is the ISD HELP DESK.

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Training Information

All classes will be held in the Training Room in the basement of the Teachers Retirement Building at 1500 6th Ave. unless another location is specified. There is a limit of 12 participants per paid class and 20 participants per demonstration (free) class, unless otherwise announced.

To enroll in a class, send an enrollment application to the Department of Administration, ISD Help Desk, Mitchell Building, Helena, MT 59620. If you have questions about enrollment, telephone the Help Desk, 444-2973. *Once you enroll in a class, by mail or telephone call, the full fee will be charged UNLESS you cancel at least three business days before the first day of class.*

The classes available and their costs are as follows:

Class Name	Cost	Length in Days
*Introduction to TSO/SPF	$ 75.00	1
*Introduction to JCL (Job Control Language)	300.00	4
*Introduction to CICS Programming	575.00	5
*Introduction to IDMS Database Programming	480.00	5
*IDMS ADS/Online	480.00	5
*Introduction to CULPRIT	225.00	3
*Subscripting in CULPRIT	FREE	¼
CULPRIT Programming for IDMS	150.00	2
*Using COMPAREX	37.50	½
*Introduction to SAS: Module 1	18.75	¼
Module 2	18.75	¼
Module 3	187.50	2½
Module 4	37.50	½
Module 5	37.50	½
*Novell Network Administration	150.00	2
*PC Memory Management Options and Considerations	FREE	¼
*Windows Purchase, Installation and Use Considerations	FREE	¼
*Windows for the Technical Support Team	150.00	2
Beginning Microcomputer Skills	75.00	1
Fundamentals of DOS	75.00	1
*Intermediate DOS	75.00	1
*Introduction to Novell Networks	37.50	½
Introduction to Windows	75.00	1
Introduction to WordPerfect (5.0 or 5.1)	112.50	1½
Advanced Features of WordPerfect 5.0	112.50	1½
WordPerfect (5.0 or 5.1) Complex Document Functions	37.50	½
More WordPerfect (5.0 or 5.1) Complex Document Functions	37.50	½
WordPerfect 5.1 Tables	37.50	½
WordPerfect 5.1 Columns and Math Functions	37.50	½
WordPerfect 5.1 Graphics	37.50	½
*WordPerfect 5.1 Tips and Tricks	FREE	¼
*Spreadsheet Design and Documentation	75.00	1

*Conversion from Lotus 1-2-3 Rel. 2.2 to Rel. 3.1	FREE	¼
Introduction to Lotus 1-2-3, Release 2.3 or 3.1	150.00	2
Intermediate Lotus 1-2-3, Release 2.3 or 3.1	75.00	1
Lotus 1-2-3 WYSIWYG Features	37.50	½
Lotus 1-2-3, Release 3.1, 3-Dimensional Spreadsheets	37.50	½
*Freelance	75.00	1
*Lotus 1-2-3, Release 2.3, Macros	150.00	2
*Introduction to Lotus 1-2-3 Database Features	150.00	2
*Introduction to PFS:Professional File, Ver. 2.0	75.00	1
*Micro Database Concepts and Design	75.00	1
*Introduction to R:Base, Release 3.1	187.50	2½
*Intermediate R:Base (Rel. 3.1)	150.00	2
*Introduction to dBASE III+	250.00	4
*State Telephone Training	FREE	¼

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* This class is not scheduled during the time covered in this issue.

Training Calendar

Data Network/Mainframe Classes

March 23 and 24   CULPRIT Programming for IDMS

Microcomputer Classes

March 3   Beginning Microcomputer Skills
March 20   Fundamentals of DOS
April 2   Beginning Microcomputer Skills
April 15   Introductions to Windows

Word Processing Classes

March 5, March 6 a.m.   Introduction to WordPerfect (5.0 or 5.1)
March 17 a.m.   WordPerfect 5.1 Tables
March 18 a.m.   WordPerfect 5.1 Columns and Math Functions
March 26 a.m.   WordPerfect (5.0 or 5.1) Complex Document Functions
March 30, March 31 a.m.   Advanced Features of WordPerfect 5.0
April 6, April 7 a.m.   Introduction to WordPerfect (5.0 or 5.1)
April 13 a.m.   WordPerfect 5.1 Tables
April 14 a.m.   WordPerfect 5.1 Columns and Math Functions
April 20   WordPerfect 5.1 Graphics
April 21 a.m.   WordPerfect Complex Document Functions
April 22 a.m.   More WordPerfect Complex Document Functions

Spreadsheet Classes

March 10 and 11   Introduction to Lotus 1-2-3 (Rel. 2.3 or 3.1)
April 9 and 10   Introduction to Lotus 1-2-3 (Rel. 2.3 or 3.1)
April 14 p.m.   Lotus 1-2-3 WYSIWYG Features
April 21 p.m.   Lotus 1-2-3 Release 3.1, Dimensional Spreadsheets
April 27   Intermediate Lotus 1-2-3, Release 2.3 or 3.1

Database Classes

None

Communication Classes

None

Data Network/Mainframe Classes

CULPRIT PROGRAMMING FOR IDMS: presented by Jane Black Eagle of the Application Services Bureau

DATE:	March 23 and 24, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	Introduction to CULPRIT Programming, or JCL and CULPRIT programming experience using sequential files; knowledge of IDMS database structure
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will cover using the CULPRIT report writer to access an IDMS database. Instruction in database navigation will include using the PATH statement to allow CULPRIT to retrieve the records automatically and using DB-EXIT to code your own database record lookups. Other topics include checking of path-ids and IDMS status, use of key files to access the database, and tips on the most efficient way to navigate an IDMS database.

Microcomputer Classes

BEGINNING MICROCOMPUTER SKILLS: presented by the staff of The Computer School

DATES:	March 3, 1992
	April 2, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	None
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This course will give participants brief hands-on experience with microcomputers. The following topics will be covered:

- The Machine
- The Operating System
- Word Processing
- Spreadsheets and Graphics
- File Management
- Communications

Most class time will be spent using microcomputers and software. This course helps develop a positive attitude toward using microcomputers and teaches their basic functions. This class--or its equivalent--is a prerequisite for our other microcomputer courses.

FUNDAMENTALS OF DOS: presented by the staff of The Computer School

DATE:	March 20, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	Beginning Micro Skills
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

"Fundamentals of DOS" is intended for microcomputer users who need to know more about controlling the microcomputer through its operating system. Programming experience is NOT required. Topics to be covered include:

- What is DOS? Why is it necessary to know about it?
- DOS names for peripherals
- File naming
- Set-up files such as CONFIG.SYS
- Internal DOS commands - DIR, ERASE, RENAME, TYPE, COPY and their variations
- External commands - FORMAT, SYS, DISKCOPY, CHKDSK, MODE
- Interpreting batch files
- Backup procedures

INTRODUCTION TO WINDOWS: presented by the staff of The Computer School

DATE:	April 15, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	Beginning Microcomputer Skills or three months of daily microcomputer use
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This course is a general introduction to Windows. It will cover the basics and show how Windows makes other applications easier to use and more productive. Topics will include:

- What are Windows - multi-tasking and task switching
- Using DOS applications
- Using Windows accessories and features
- Screen, window and menu navigation
- Window sizing and movement
- Customization

This course will not include training for system administrators and programmers. It will not cover Windows installation, maintenance or advanced features such as use for programming and file/directory management.

INTRODUCTION TO WORDPERFECT: presented by the staff of The Computer School

DATE: March 5 and 6, 1992
     April 6, April 7 a.m.
TIME: 8:30 a.m. to 3:30 p.m. on first day
     8:30 a.m. to noon on second day
PREREQUISITE: Beginning Microcomputer Skills or equivalent
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class is a generic introduction to WordPerfect for new users of release 5.0 or 5.1. Experience with WordPerfect is not necessary. Participants will go through the fundamentals of creating, formatting, editing and printing documents. Some advanced features will also be covered, including checking spelling, finding a word or phrase, marking blocks of text, moving text and listing/retrieving document files.

ADVANCED FEATURES OF WORDPERFECT 5.0:   presented by staff of The Computer School

DATE: March 30 and 31, 1992
TIME: 8:30 a.m. to 3:30 p.m. on first day
     8:30 a.m. to noon on second day
PREREQUISITE: Introduction to WordPerfect 5.0 or equivalent
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

For those already using WordPerfect 5.0, the advanced class will cover footnotes, column generation, sorting capabilities, dual document editing, font changes within a document, creation of style sheets and master documents, keyboard layout, the compose function and graphics.

WORDPERFECT 5.1 TABLES: presented by staff of the Computer School

DATE: March 17, 1992
     April 13, 1992
TIME: 8:30 a.m. to noon
PREREQUISITE: Introduction to WordPerfect 5.0 or 5.1
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will cover the creation of tables in WordPerfect 5.1. Once students practice with Word-Perfect's Tables feature they will be able to create and edit large, complex tables and provide automatically for table entries requiring calculation. Students will learn to create tables with text only or with combinations of text and numbers. Students will use math functions and create formulas to generate table entries and will define and generate column totals and row totals.

WORDPERFECT 5.1 COLUMNS AND MATH FUNCTIONS:
presented by staff of the Computer School

DATE: March 18, 1992
April 14, 1992
TIME: 8:30 a.m. to noon
PREREQUISITE: Introduction to WordPerfect 5.0 or 5.1
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will cover the column and math features in WordPerfect 5.1. Students will learn to set up and edit newspaper and parallel columns of various widths and lengths. They will practice editing text or figures in columns without losing the desired layout or visual effect. For column entries requiring calculation, subtotals and totals, students will learn to create and use column definitions, math functions, and formulas.

WORDPERFECT COMPLEX DOCUMENT FUNCTIONS: presented by staff of the Computer School

DATE: March 26, 1992
April 21, 1992
TIME: 8:30 a.m. to noon
PREREQUISITE: Introduction to WordPerfect 5.0 or 5.1
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will cover Master and Subdocument design as well as creation of tables of contents, lists of tables and lists of figures. Using WordPerfect's Master Document feature allows creation of larger or more complex documents while providing more manageable and editable documents. Examples are reports containing multiple chapters or requiring indices, tables of contents, lists of figures and tables, outlines, headers and/or footers. Students currently using WordPerfect 5.0 or 5.1 will learn WordPerfect features that make it easy to generate tables of contents, lists and outlines and to combine subdocuments into a complex master document. Students will learn how to build, edit and expand a master document that includes these various lists of the document's contents.

MORE WORDPERFECT COMPLEX DOCUMENT FUNCTIONS—FONTS, STYLES AND LAYOUT:
presented by staff of the Computer School

DATE: April 22, 1992
TIME: 8:30 a.m. to noon
PREREQUISITE: WordPerfect (5.0 or 5.1) Complex Document Functions
LOCATION: Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will expand upon the concepts covered in the prerequisite class. Persons currently using WordPerfect 5.0 or 5.1 will learn WordPerfect features that they can use to create a variety of reports and other complex documents. Students will learn to incorporate headers and footers, footnotes or endnotes, and cross-referencing into the Master and Subdocument design. The class will also cover the use of Style, Font, Text In/Out, Graphics and Compose functions for document design and layout. It will be taught using WordPerfect 5.1, but concepts and functions covered are available in WordPerfect 5.0.

WORDPERFECT 5.1 GRAPHICS: presented by staff of the Computer School

DATE:	April 20, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	Introduction to WordPerfect
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class will cover the creation and use of WordPerfect 5.1 graphics. Students will learn to create and edit graphic figures, boxes and lines. Hands-on exercises will include using these boxes, figures and lines with a variety of fonts and with the compose function. The class will also cover changes in the Setup and Print functions often associated with graphics.

Spreadsheet Classes

INTRODUCTION TO LOTUS 1-2-3, RELEASE 2.3 OR 3.1:   presented by the staff of The Computer School

DATE:	March 10 and 11, 1992
	April 9 and 10, 1992
TIME:	8:30 a.m. to 4:30 p.m. <u>each day</u>
PREREQUISITE:	Beginning Microcomputer Skills
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This class is a generic introduction to Lotus 1-2-3 for persons with little or no Lotus experience. It will consist of instructions and hands-on practice, with lab time available for building spreadsheets of the participants' choosing.

The class will cover design, creation, printing and editing of spreadsheets. Additional topics will include selected graphic features, the use of formulae to connect spreadsheets, and the opening of multiple files at the same time. Students will learn about new WYSIWYG (<u>W</u>hat <u>Y</u>ou <u>S</u>ee <u>Is</u> <u>W</u>hat <u>Y</u>ou <u>G</u>et) features of Releases 2.3 and 3.1 such as enhanced printing of spreadsheets and graphs.

LOTUS 1-2-3 WYSIWYG FEATURES: presented by the staff of The Computer School

DATE:	April 14, 1992
TIME:	1:00 p.m. to 4:30 p.m.
PREREQUISITE:	Introduction to Lotus 1-2-3
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This course is intended for users of Release 2.3, 3.1 or 3.1+ who are already using Lotus 1-2-3 to create spreadsheets. It introduces students to the WYSIWYG (<u>W</u>hat <u>Y</u>ou <u>S</u>ee <u>Is</u> <u>W</u>hat <u>Y</u>ou <u>G</u>et) features of Lotus 1-2-3. The class consists of lecture and hands-on practice with the following features:

- Format--fonts, boldface, italics, underline, shadow, and outline
- Text--ranges, alignment, edit
- Screen display, zoom and customization
- Graphics within a worksheet--adding, enhancing, changing size or location

- Page layout
- Previewing and printing
- Advanced WYSIWYG features

INTERMEDIATE LOTUS 1-2-3, RELEASE 2.3 OR 3.1:   presented by the staff of The Computer
                                                                                                School

DATE:	April 27, 1992
TIME:	8:30 a.m. to 4:30 p.m.
PREREQUISITE:	Introduction to Lotus 1-2-3
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This course is intended for users of Release 2.3, 3.1 or 3.1+. It covers intermediate features of Lotus 1-2-3 for those who are familiar with Lotus basics. It consists of instructions and hands-on practice, with lab time available for building spreadsheets of the students' choosing.

The following topics will be presented:

- @ functions
- Date and time formats and functions
- Ranges--naming, hiding and protecting ranges; using range commands
- Global defaults
- Titles, windows and text editing

Time permitting, the following topics will be covered with some hands-on practice:

- Selected file functions and file linking
- Magellan Viewer Addin (available in Releases 2.3 and 3.1+ only)
- Auditor Addin (available in Releases 2.3 and 3.1+ only)

LOTUS 1-2-3, RELEASE 3.1, 3-DIMENSIONAL SPREADSHEETS: presented by the staff of The
                                                                                                            Computer School

DATE:	April 21, 1991
TIME:	1:00 p.m. to 4:30 p.m.
PREREQUISITE:	Introduction to Lotus 1-2-3
LOCATION:	Basement of the Teachers Retirement Bldg. at 1500 6th Ave.

This course is intended for users of Release 3.1 who are using Lotus 1-2-3 to create spreadsheets. It covers the purposes of three dimensional spreadsheets and provides hands-on practice with multiple (3-dimensional) worksheets within a file. Features covered include:

- Multiple worksheet uses
- Inserting and deleting worksheets
- Navigation among worksheets
- Working with three-dimensional ranges
- Perspective view
- Using group mode
- Working with more than one file in memory
- Navigating among files

ISD CLASS ENROLLMENT APPLICATION
COMPLETE THIS APPLICATION _IN FULL_ AND
RETURN IT TO THE INFORMATION SERVICES "HELP DESK"
PRIOR TO THE FIRST DAY OF CLASS

COURSE DATA

Course Requested: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency & Division: _____

Mailing Address: _____

_____

Phone: _____

How have you met the required prerequisites for this
course? Explain giving the class(es) taken, tutorial(s)
completed, and/or experience.

_____

_____

_____

BILLING INFORMATION/AUTHORIZATION

ISD Billing Number (5 digits): _____

Authorized Signature: _____

**FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS
CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE
THE START DATE OF THE CLASS.**

SEND COMPLETED FORM TO:
ISD HELP DESK, DEPARTMENT OF ADMINISTRATION

DEPARTMENT OF ADMINISTRATION
INFORMATION SERVICES DIVISION
RM 25 MITCHELL BLDG
HELENA MT 59620